What is Claimed is:

1. An apparatus for use in a photolithography process applied to substrates, the apparatus comprising a phototrack tool arrangement including at least a photoresist coating unit, a developing unit, and a monitoring system for optically monitoring the parameters of the substrates; said monitoring system comprising an optical monitoring station and a control unit connectable thereto, the optical monitoring station comprising a supporting assembly for receiving substrates to be inspected and an optical assembly operable to apply optical measurements to the supported substrate and generate measured data indicative thereof, and being configured so as to be physically combined inside the foot print of the phototrack tool arrangement, the control unit being configured for controlling the monitoring station and for processing the measured data to determine at least one parameter of the substrate.

2. The apparatus according to claim 1, and further comprising a transfer device for transferring the substrate from one station to another, and for transferring the substrate to said monitoring station.

3. The apparatus according to claim 1, wherein said monitoring station is accommodated between the developing unit and an unloading station for monitoring the substrates after the substrates have passed through the developing unit and before reaching the unloading station.

4. The apparatus according to claim 1, wherein the monitoring system is configured for detecting overlay registration errors in the alignment of a pattern on the developed substrate with respect to a developed pattern produced on said substrate in a preceding photolithography process performed on said substrate.

5. The apparatus according to claim 1, wherein the monitoring system is configured for detecting defects in the substrate, including defects produced by the photolithography process performed on the substrate.

6. The apparatus according to claim 1, wherein the monitoring system is configured for detecting critical dimensional errors in the developed pattern of the photoresist coating produced during the respective photolithography process.

7. The apparatus according to claim 1, wherein the optical assembly is accommodated within a sealed enclosure having a transparent window aligned with and facing a plate supporting the substrate outside said sealed enclosure, thereby enabling inspecting the supported substrate via the transparent window.

8. The apparatus according to claim 7, wherein the monitoring system includes at least one light source accommodated externally of said sealed enclosure.

9. The apparatus according to claim 1, wherein the monitoring system includes an optical imaging device and an optical image processing unit connectable to said optical imaging device.

10. The apparatus according to claim 9, wherein said optical assembly and said imaging device are located within a sealed enclosure having a transparent window aligned with and facing a plate supporting the substrate outside said sealed enclosure, thereby enabling inspecting the supported substrate via the transparent window.

11. The apparatus according to claim 10, wherein said optical image processing unit is located externally of said sealed enclosure and is connectable to said optical imaging device by electrical conductors passing into said sealed enclosure.

12. The apparatus according to claim 7, wherein the control unit is located externally of said sealed enclosure and is connectable to said optical assembly for controlling it via electrical conductors passing into said sealed enclosure.

13. The apparatus according to claim 1, wherein said optical assembly includes a low-magnification channel for aligning the optical assembly with respect to the substrate on a supporting plate; and a high-magnification channel for measuring predetermined parameters of the photolithography process after the substrate has passed through the developing unit and before reaching an unloading station.

14. The apparatus according to claim 13, wherein said optical assembly includes an optical head movable within and containing an objective lens for said low-magnification channel, and an objective lens for said high-magnification channel.

15. The apparatus according to claim 14, wherein the lenses are movable together upon moving the optical head.

16. The apparatus according to claim 1, wherein a supporting plate of the supporting assembly is mounted for movement relative to at least a part of the optical assembly.

17. The apparatus according to claim 1, wherein at least a part of the optical assembly is mounted for movement relative to a supporting plate of the supporting assembly.

18. The apparatus according to claim 16, wherein at least a part of the optical assembly is mounted for movement relative to the supporting plate of the supporting assembly.

19. The apparatus according to claim 14, wherein the objective lens of the low-magnification channel has a relatively small numerical aperture, and the objective lens of the high-magnification channel has a relatively large numerical aperture.

20. The apparatus according to claim 14, wherein said high-magnification channel includes a measuring device within the optical head for accurately measuring an angle of light impinging onto the substrate with respect to the surface of the substrate.

21. The apparatus according to claim 16, wherein the supporting plate is mounted for rotation about its central axis.

22. The apparatus according to claim 18, wherein the supporting plate is mounted for rotation about its central axis.

23. The apparatus according to claim 4, wherein a supporting plate of the supporting assembly is mounted for rotation about its central axis.

24. The apparatus according to claim 6, wherein a supporting plate of the supporting assembly is mounted for rotation about its central axis.

25. A method for monitoring a photolithography process applied to a substrate, the method comprising: locating the substrate on a supporting assembly of an optical monitoring station that is located inside a phototrack tool arrangement, which includes at least a photoresist coating unit and a developing unit; applying the measurement or inspection to at least one special target on the substrate and generating measured data indicative thereof; and processing the measured data to determine at least one parameter of the substrate.

26. The method according to claim 25, wherein the special target comprises at least one line.

27. The method according to claim 25, wherein said processing comprises detecting overlay registration errors in the alignment of a pattern on the developed substrate with respect to a developed pattern produced on said substrate in a preceding photolithography process performed on said substrate.

28. The method according to claim 25, wherein said processing comprises detecting defects in the substrate, including defects produced by the photolithography process performed on the substrate.

29. The method according to claim 25, wherein said processing comprises detecting critical dimensional errors in the developed pattern of the photoresist coating produced during the respective photolithography process.

30. The method according to claim 29, wherein the special target comprises a group of the parallel target lines.